8.26.2015

**Lesson:** 1.2 Defining functions, using the VLT

**Objective:**

1. define “function”
2. identify functions on a graph (using the VLT)

**Agenda:**

1. Warm Up
2. Review definition of a function: A function is a **relationship** between sets of input and output values in which each input has a **certain, single** output.
3. Identifying functions on a graph
4. Real-life functions?
5. Warm Up Review **(6-15 min)**
   1. Introduce myself: Name on board. For those of you who took Algebra 1 with me: you are older, different; I am older; room is different; subject is different.
   2. Let’s jump right in: We just did a **silent**, short Warm Up. That is how we will start each period. We do that for a very simple reason: each of you are here to learn algebra, and learning Algebra is a lot like learning to play a musical instrument. Etc.
   3. Segway: Working silently helps focus and THINKING. Another way to help you learn is to share ideas with another person. I am going to ask you to work with one partner to solve this puzzle. This is something I will ask you to do very often, so before we start, what are some tips for how to work well with another person? What do you need to be sure to do? (Make list on the board)
      * 1. Openness and respect for the ideas of the other
        2. Willingness to share, willingness to listen
        3. Willingness to be wrong together
        4. Ability to explain your collective ideas out to the group
   4. Have students work together to complete the puzzle as much as possible **(3 – 5 min)**
   5. Ask for general feelings about the problem (before solutions) – **purpose**: **1)** everyone’s experience of math and approach to math is individual, different. **2)** Frustration, anxiety, stuckness – these are common feelings when dealing with challenging problems.
   6. Ask what do you think the purpose in starting class with this problem was. **Purpose:** perseverance and positive thinking. (Partner share: what is perseverance and why does it matter? Positive thinking: same) (**Power Point Slides**)
6. Math Autobiography **(15 – 30 min)**
   1. Because everyone comes to math from a different place, it’s important for us to have honest communication about where you’re coming from. If I know where you’re coming from, what you’re feeling when you look at a math problem, I’m better able to help you.
7. Syllabus (**30 min – 40 min)**
   1. Highlight:
      1. Supplies
      2. “No” rules
      3. Don’t take away from the learning of others.
      4. Helping each other
8. Exit Slip: What did you learn today? What are you looking forward to in the coming year? **(40-45 min)**
9. Homework: Signed syllabus, supplies by Friday.

**Algebra II Name:**

**1.2 Defining and Identifying Functions – Part 2 Date:**

**Warm Up**

1. Please take out your homework to be checked, along with any class supplies. Write down your homework assignment from the white board.
2. **Activate prior knowledge:** Use , , and to find the value of the following expressions
3. **Challenge! Try it!**

If = + 3

And + 8 = 15

What is the value of ?

**Answer: = \_\_\_\_\_\_**

**Algebra II Name:**

**1.1 Class Notes Date:**

Objective: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
| A **function** is a **relationship** in which each input has a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_ output. |

**Examples:**

**Function**

**Not a function**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | 4 | 2 | -5 | 9 |
| **Output** | 7 | 1 | 4 | 0 |

**Function**

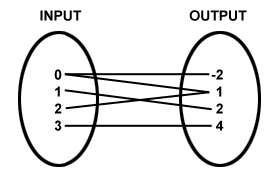
**Not a function**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **x** | 3 | 2 | 0 | 3 | 4 |
| **y** | -8 | 1 | 6 | 5 | 10 |

**Function**

**Not a function**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **x** | -2 | 0 | 2 | 5 | 0 |
| **f(x)** | 11 | 5 | -3 | 3 | 5 |



**Function**

**Not a function**

**Function**

**Not a function**

**{ (1, 6) (2, 3) (5, 7) (6, 10) }**

**Function**

**Not a function**

**{ (1, 6) (2, 3) (1, 7) (6, 10) }**

**Algebra II Name:**

**1.1 HW Date:**

**Are the following relations functions?**

**Function**

**Not a function**



**Function**

**Not a function**



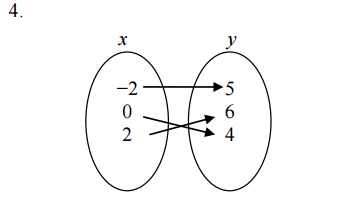
**Function**

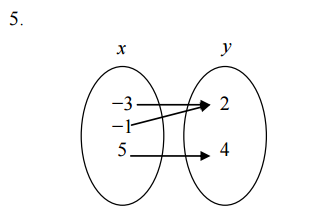
**Not a function**



**Function**

**Not a function**

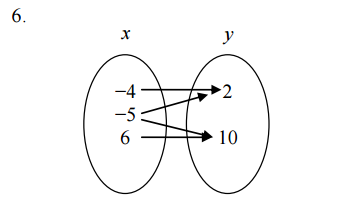




**Function**

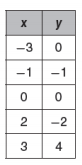
**Not a function**

**MORE on the BACK!**



**Function**

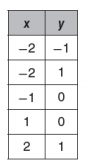
**Not a function**



**7.**

**Function**

**Not a function**

**8.** 

**Function**

**Not a function**

**9. In your own words, explain how you can tell whether a set of pairs of numbers is a function or not.**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**Algebra II Name:**

**1.1 Exit Ticket Date:**

1. Determine whether this table shows a function relationship and **explain how you know**.

**Function**

**Not a function**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **x** | 3 | 2 | 0 | 3 | 4 |
| **y** | -8 | 1 | 6 | -8 | 10 |

**How do you know?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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